basic imagery interpretation report

Developments at Soviet Solid Propellant R & D Facilities (S)

25X1

INSTALLATION OR ACTIVITY NAME					COUNTRY
Developments at Soviet Solid Propellant Research and Development Facilities					UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NO.	COMIREX NO.	NIETB NO.
NA	See below	See below	See below	See below	See below

MAP REFERENCE

ACIC. USATC; Series 200; Sheets 0103-25, 0153-04, 0154-23, 0155-20, 0165-01, and 0167-05; scale 1:200,000

LATEST IMAGERY USED	NEGATION DATE (If required)
	NA

25X1

Installation Name	Geographic Coordinates	Category	BE No	COMIREX No	NIETB (MRN) No
Kazan Missile Propulsion R&D Facility	55-53-32N 048-50-02E				
Krasnoarmeysk Solid Motor Development Facility	56-06-40N 038-10-20E				
Krasnoarmeysk Isolated Motor Test Area	56-10-15N 038-14-12E				
Leningrad Arms Plant Krasnoye Znamya Frunze 7	59-57-37N 030-21-56E				
Leningrad Institute of Applied Chemistry (GIPKh)	59-56-56N 030-17-54E				
Leningrad Solid Motor Test Facility 1	60-03-58N 030-36-04E				
Leningrad Solid Motor Test Facility 2	60-12-45N 030-42-21E				
Leningrad Weapons Test Facility 3	60-15-30N 030-44-41E				
Moskva Explosives Propellant R&D Facility Lyubertsy	55-37-25N 037-50-04E				
Moskva Solid Motor Production Plant Lyubertsy	55-36-36N 037-52-44E				
Moskva Scientific Research Institute of Machine Bldg Ministry (NII Min-Mash)	55-51-23N 037-36-15E				
Petrokrepost Explosives and Solid Motor Plant Morozov	59-59-07N 030-58-55E				
Votkinsk Missile Machine and Steel Plant 235	57-02-39N 053-59-11E				
Votkinsk Missile Final Assembly and Checkout Facility	57-02-13N 054-08-40E				
Zagorsk Solid Propellant R&D Facility	56-17-50N 038-08-56E				

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ABSTRACT

1. (S/D) This report describes developments at 15 Soviet solid propellant rocket motor research and development (R&D) facilities. It updates previous NPIC reports [redacted] and [redacted] and is based on all relevant [redacted] acquired through the information cutoff date of 12 February 1981. A location map, seven annotated photographs, and three tables are included. 25X1 25X1

2. (TSR) At Moskva Solid Motor Production Plant Lyubertsy, extensive modifications to the rocket motor test area and the adjacent suspect magnetohydrodynamic facility were underway in 1980. At Krasnoarmeysk Isolated Motor Test Area, a 245-meter-long blast mark and a [redacted] probable motor on a dolly were observed on [redacted] Another probable motor, [redacted] meters, was seen in the test area on [redacted] At Krasnoarmeysk Solid Motor Development Facility (SMDF) confirmed blast marks were observed at the two horizontal test cells on eight occasions and probable or possible blast marks were seen on ten other occasions. This represents a high level of test activity for a 12-month reporting period. A probable SS-N-14 missile canister and five possible SA-8/SA-N-4 missile canisters were seen at the Krasnoarmeysk SMDF for the first time in 1980. At least two sizes of conical motors/containers were seen in new locations at Krasnoarmeysk. Possible conical motors/containers were also seen in 1980 at Moskva Solid Motor Production Plant Lyubertsy for the first time, and a probable conical motor was seen again in 1980 at Kazan Missile Propulsion Research and Development Facility. 25X1 25X1 25X1

3. (TSR) A new phase of development for a modified SS-N-12 missile may be underway at Leningrad Solid Motor Test Facility 1 and/or Leningrad Weapons Test Facility 3. Although the SS-N-12 is a tactical cruise missile, a strategic version with increased range capability may be forthcoming. Possible missile or missile component containers, [redacted] were seen at the Zagorsk Solid Propellant Research and Development Facility for the first time in October 1980. A significant expansion program, started at Votkinsk Plant 235 in late 1976, was almost complete in 1980. This construction is apparently related to the construction of two new missile assembly and checkout buildings and a new ten-bay garage at Votkinsk Missile Final Assembly and Checkout Facility since September 1978. The extent of the expansion at these two facilities indicates that one or more new missile systems may be in production there in the near future. 25X1

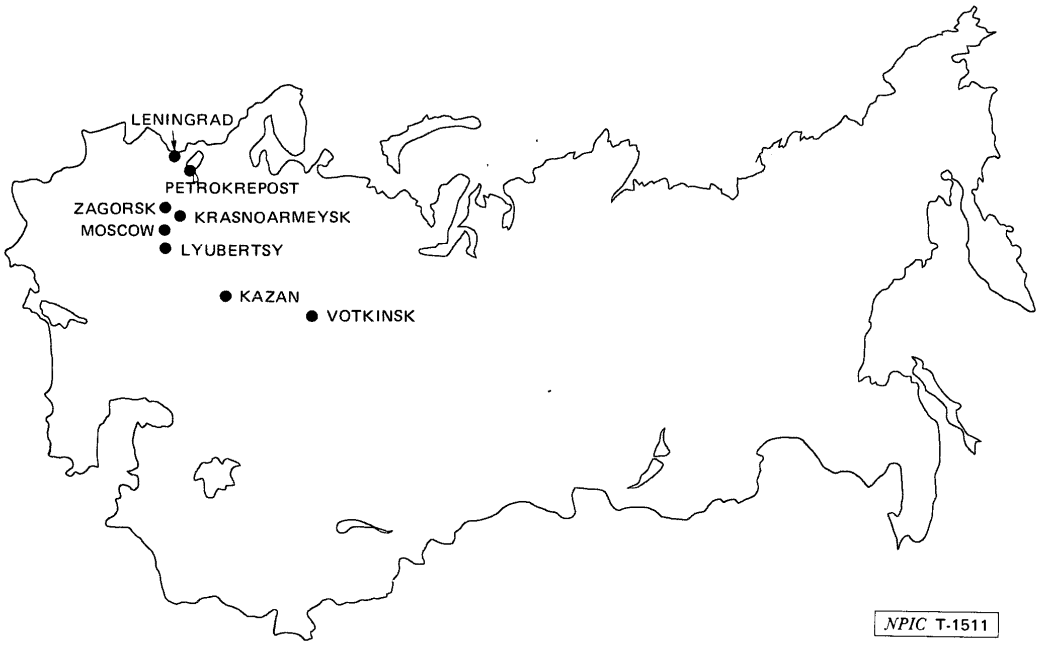

FIGURE 1. LOCATIONS OF SOVIET SOLID PROPELLANT ROCKET MOTOR RESEARCH AND DEVELOPMENT FACILITIES

[redacted] 25X1

INTRODUCTION

4. (S/D) At each of the installations discussed in this report (Figure 1) a significant contribution has been made to Soviet solid propellant rocket motor research and development (R&D) programs. The main functions of these facilities include the design, development, and limited production of prototype rocket motors and their components and a wide range of related test activity. [redacted] 25X1
25X1
, and in qualifications and acceptance testing of new and modified solid propulsion systems. A few of these facilities have a role in series production in addition to the R&D of solid propulsion missiles. Collectively, these facilities represent a significant portion of the Soviet effort in the field of solid propellant missile technology.

5. (S/D) The location, physical description, security, and historical association of these installations with various missile systems or programs were discussed in previous NPIC reports.[1, 2, 3, 4, 5] This report will discuss developments which have occurred since the last NPIC reports.

6. (S/D) No significant new construction activity or missile-associated equipment was observed at two of the 15 facilities during the reporting period. These facilities, Leningrad Institute of Applied Chemistry (GIPKh) and Moskva Scientific Research Institute of Machine Building Ministry (NII-Min-Mash), will not be discussed further.

BASIC DESCRIPTION

Kazan Missile Propulsion R&D Facility

7. (TSR) Numerous probable missile-associated cylinders, probable missile component crates, and aircraft engine crates continued to be seen at the facility (Table 1). Possible new rocket motors/containers or missile canisters observed in 1980 included eight cylinders in the [redacted] 25X1
range. Two of these were near a probable solid motor assembly/checkout building in June; and in July, one was in the boneyard where expended motors are discarded. At least five others were seen next to the largest assembly and checkout building at the facility in November and December.

Table 1. Sizes of Probable Missile-Associated Cylinders and Crates Fequently seen in Open Storage at Kazan Missile Propulsion R&D Facility

This table in its entirety is classified TOP SECRET RUFF

Cylinders		Crates	
L	W	L	W
[redacted]			

25X1

8. (TSR) A probable conical motor, about [redacted] and a ribbed probable rocket motor container, about [redacted] were seen in the boneyard on [redacted] Observations of probably identical motors/containers in the boneyard have been previously reported.[6] 25X1 25X1 25X1

9. (S/D) Construction continued on a fabrication building outside the plant wall at the southeast side of the plant. [redacted] addition was constructed onto the back of the probable altitude test position. A new overhead crane was completed next to a recently expanded probable motor storage building. 25X1

[redacted] [redacted] 25X1

Krasnoarmeysk Solid Motor Development Facility and Krasnoarmeysk Isolated Motor Test Area

10. (S/D) The Krasnoarmeysk Isolated Test Area is one of ten areas that make up the Krasnoarmeysk Solid Motor Development Facility. During the reporting period, activity was observed in eight of the ten areas.

11. (TSR) Probable rocket motors/containers and other missile-associated cylinders and crates observed at the facility since 1969 have ranged between [redacted] long and between [redacted] in diameter. The missile-associated cylinders and crates observed during the current reporting period continued to fall within these size ranges. The presence and movement of some of these objects within the facility may indicate that several new or modified solid missiles were under development or that new or modified propulsion systems were undergoing qualifications and acceptance tests in preparation for series production and deployment. 25X1

Isolated Motor Test Area

12. (TSR) A blast mark, 245 by 165 meters, was observed extending from the horizontal test position on [redacted] A probable expended motor, [redacted] 25X1
[redacted] was on a dolly in the test area and may have been the test article which caused the blast mark (Figure 2). Another probable motor or container, [redacted] was on a dolly in the test area on [redacted] 25X1
with a [redacted] crate on the ground nearby. [redacted] 25X15X1
[redacted] 25X1

Rocket Motor Assembly, Checkout, and Test Area

13. (TSR) At least eight static tests were conducted at the two horizontal test cells in this area in 1980. Confirmed blast marks ranging from 50 to 260 meters extended from the larger of the two test cells on [redacted] 25X1
[redacted] Probable or possible blast marks 25X1
were seen on [redacted] and 25X1
[redacted] Confirmed blast marks, ranging from 40 to 210 meters, were 25X1
observed at the smaller test cell on [redacted] Prob- 25X1
able or possible blast marks were seen on [redacted] 25X1
Three possible missile-associated cylinders were near the larger of the two test cells during the reporting period. Two of these were [redacted] 25X1
meter and were possible SS-12/-22 missile canisters. The third cylinder was approximately [redacted] Grading activity was observed in front of 25X1
and beside the larger test cell building.

14. (TSR) Numerous cylinders continued to be observed on railcars and on the ground. Unidentified cylindrical objects seen on railcars in 1980 included one [redacted] 25X1
At least one possible SS-12/-22 missile canister was on a railcar and two others were on the ground next to a rail line with several other probable motors/containers. Four of these probable motors/containers were canvas covered with dimensions of [redacted] Two 25X1
probable motors/containers [redacted] were in 25X1
the same area on several occasions in 1980. In March 1980, there were eight additional [redacted] motors/containers behind a small support building, but only two were seen in December 1980. 25X1

Probable Missile Receiving and Checkout Area

15. (TSR) A probable SS-N-14 missile canister, five possible SA-8/SA-N-4 missile canisters, and a possible SS-N-14 crate were newly identified in this area in 1980. Probable SS-N-2, SS-N-9, and SS-N-3/-12 crates and probable SS-12/-22 missile canisters continued to be observed. Numerous unidentified cylinders and crates also continued to be observed. In July 1980, five unidentified cylinders, [redacted] were observed, and two canvas- 25X1
covered crates, [redacted] were present in September 1980. 25X1

16. (TSR) Conical motors/containers continued to be observed at Krasnoarmeysk and have been seen at several other solid motor-associated facilities since 1975.[7] A cone shape is particularly desirable for the design of high-

[redacted] [redacted] 25X1

Next 1 Page(s) In Document Denied

acceleration ABMs and ATBMs. Conical motors/containers, [redacted] long with a maximum diameter of [redacted] and a minimum diameter of [redacted] and [redacted] were seen in 1980. At least one two-stage conical missile is probably under development or undergoing qualifications and acceptance tests. 25X1 25X1 25X1

17. (TSR) Other possible rocket motors/containers observed in 1980 included two [redacted] and one [redacted] 25X1 25X1

Original Design Bureau 3 Test Area

18. (TSR) Mobile communications and command and control equipment, including a MAZ-543 missile support van and two [redacted] van trucks, were newly identified on [redacted] and remained in the same position throughout the remainder of the reporting period. In addition, an unidentified cylindrical object, [redacted] was observed in May and December 1980. Canvas was stretched over a small portion of the test area on several occasions in 1980. 25X1 25X1 25X1

Possible Missile Storage/Support Area

19. (TSR) The two previously reported[5] probable rocket motors/containers, [redacted] which were first observed on [redacted] are probably storage tanks. On [redacted] a tank with similar dimensions was seen in an excavation and a second tank was seen on the ground next to the excavation. Six other probable tanks were scattered about the area on the same date. 25X1 25X1

Probable Rocket Motor Assembly and Checkout Area Under Construction

20. (S/D) Construction progress has been very slow in this separately secured area. One of the two barricaded probable assembly/checkout buildings remained in a midstage of construction, and the construction of road or rail passageways to serve the externally complete probable assembly/checkout building continued.

Air-breathing Engine Test Area

21. (S/D) When the area was last seen on [redacted] four new pressure tanks had been installed on one of the two new racks recently constructed next to two existing racks containing 14 pressure tanks each. Seven additional new pressure tanks were on the ground near the new racks, and 17 more were in the administration and support area. When these 24 pressure tanks are installed, the capacity will have doubled, indicating future expansion of engine test activity in this area. 25X1

Munitions Loading and Storage Area

22. (TSR) Several unidentified crates and cylinders, as well as one SS-N-2, one SS-N-9, one SS-N-14, and four SS-N-3/-12 shipping crates, remained in the area throughout the reporting period. Two additional SS-N-9 crates and one additional SS-N-3/-12 crate was observed during the current reporting period.

23. (TSR) An unidentified cylindrical object, approximately [redacted] meters, was observed near the crates on [redacted] The object is possibly tapered at one end and is similar in dimensions to a motor observed at the thrust block at Biysk Test Area II [redacted] 25X1 25X1 25X1

Leningrad Arms Plant Krasnoye Znamya Frunze 7

24. (S/D) Leningrad Plant 7 has historically been a production facility for naval weapons and has a newly identified association with the development and/or production of solid missiles, including the SS-13 and SS-14.[8,9]

25. (S/D) Other than two or three missile component railcars which are observed on most coverages, no missile-associated equipment has been confirmed [redacted] 25X1

26. (S/D) Construction continued on the large fabrication/assembly building which has been under construction since April 1977. The building consists

[redacted] [redacted] 25X1

of three main sections and is about 145 by 110 meters overall (Figure 3). Minor construction started in 1980 included four probable support buildings/ structures.

Leningrad Solid Motor Test Facility 1

27. (S/D) Leningrad Solid Motor Test Facility 1 is a static test facility for Petrokrepost Explosives and Solid Motor Plant Morozov, 12 nautical miles to the east-southeast. Minor construction activity was again observed during this reporting period. A metal shed, 35 by 12 by 8 meters, was erected in a cleared area on the east side of the facility. Earthen barricades were constructed on either side of the shed, and a new road and steamline were constructed to serve the shed. A probable storage tank, [redacted] seen on the ground near the shed will probably be buried in a nearby excavation. The concrete oval track previously reported[5] under construction remained unchanged. 25X1

28. (TSR) Two probable expended motors were discarded in the boneyard in June 1980. The motors are [redacted] long; the diameters could not be obtained. 25X1

29. (S/D) In the structural/vibration nondestructive test area, probable test articles were seen on six occasions. The test structure partially enclosed the test articles precluding their mensuration.

30. (TSR) In May and June 1980, two SS-N-3/-12 crates were present at test position 1. These were the first missile crates identified there since the test position was modified between November 1977 and September 1978. However, several possible motors/containers were seen here in 1979. The observation of the two crates may indicate that a new test phase for a modified SS-N-12 is underway at Leningrad Test Facility 1. It is also possible that the two crates are used for storage of materials since SS-N-3/-12 crates have been used for storage at other locations in the Soviet Union. On [redacted] an unidentified cylindrical object, [redacted] was seen in the area of test position 1.5 25X1 25X1

31. (S/D) On [redacted] a new small gun was seen added to the line of naval guns normally seen in open storage at test facility 1. An environmental cover remained over the twin-arm launcher throughout the reporting period. 25X1

Leningrad Solid Motor Test Facility 2 and Leningrad Weapons Test Facility 3

32. (TSR) Leningrad Test Facilities 2 and 3 are separate but related test facilities that have been actively involved in integrated propulsion and airframe systems testing, primarily for naval cruise missiles. A bus and/or small vehicle was frequently observed at test facility 2, but no test activity was identified there between [redacted] an unidentified vehicle/object was seen near the tracks at the test position. However, a shelter which conceals a portion of the tracks has remained in the same position since March 1979, and no other objects have been seen on the tracks. Trenches were being dug at the east end of the facility and stacks of probable building materials remained next to the barricaded explosives storage building. 25X1 25X1

33. (TSR) In 1979 and 1980, there were indications that a test phase of a probable modified version of the SS-N-12 missile system had been completed at test facility 3. The first indication was a decline in the number of SS-N-3/-12 missile shipping crates from six to two in June 1979. By [redacted] only one SS-N-3/-12 crate remained in the facility; and the captive fire test stand, which had been stationed at test position 4 and was associated with a probable modified SS-N-12, had been removed. This test stand, which was originally located at Leningrad Test Facility 2, had been used in testing the SS-N-12 missile system since June 1969.[2] It was moved to test facility 3 in early 1974. Observations of SS-N-3/-12 missile shipping crates and an SS-N-12 missile airframe indicated that static booster motor and/or sustainer engine tests and integrated airframe/propulsion tests for a probable modified SS-N-12 occurred at test facility 3 from at least October 1976 until April 1980. In June 1980, two SS-N-3/-12 crates were observed at Leningrad Solid Motor Test Facility 1 for the first time. 25X1 25X1

34. (TSR) A new phase of R&D work on a modified SS-N-12 missile may be underway at test position 4 of test facility 3. On [redacted] a canvas-covered, ribbed framework, [redacted] was seen for the first time at test position 4. The framework remained there throughout the reporting period. Although it has not yet been seen against the thrust block, the structure may be an environmental shelter which could effectively conceal motors and/or future test activity at this previously modified SS-N-12 associated test position.

Moskva Explosives Propellants R&D Facility Lyubertsy

35. (S/D) Previously reported construction on a large engineering building, a warehouse, and a subsurface personnel shelter was completed during the current reporting period. Changes to the facility included the razing of the large stack of the steamplant and the construction of two additions to the steamplant. When the facility was last observed, a small support building was being razed. No missile-associated equipment was identified at the facility.

Moskva Solid Motor Production Plant Lyubertsy

36. (TSR) Only three [redacted] rocket motors remained in an open storage yard at the plant during the current reporting period (Figure 4). Beginning in March 1977, [redacted] motors were placed in one of the open storage yards until a total of 11 had accumulated by September 1978. The [redacted] motors are the largest motors/containers seen at Lyubertsy in recent years.

37. (TSR) Two possible conical rocket motors or containers were newly identified in the open storage yards in August 1980. One is [redacted] long with a maximum diameter of [redacted] and a minimum diameter of [redacted] The other one is [redacted] long with a maximum diameter of [redacted] and a minimum diameter of [redacted] The sizes and number of crates and other probable rocket motors/containers at the plant have remained approximately the same as those previously reported.[1,5,6] However, a large number of domed objects, which appear to be end caps for missile canisters or motors/containers, were observed in the open storage yards in 1980 (Figure 4). The domed objects range in size from [redacted] in diameter and [redacted] in height.

38. (S/D) The construction of a new high-bay building, 56 by 18 by 13 meters, was started in the area of one of three open storage yards at the plant. This new construction resulted in the movement of the probable motors and containers and numerous unidentified objects normally stored in that area to the other two open storage areas.

39. (S/D) A major new test program is planned for the plant. This program is evidenced by significant new construction and modification activity (first observed in July 1980) centered around horizontal test cell 1 and the suspect MHD facility (items 1 and 2, Figure 5).[10] At horizontal test cell 1 a new pipeline (item 3), [redacted] in diameter was being constructed by connecting [redacted] long pipe sections end to end. The pipeline extended along the blast apron between the test cell building and a new building (item 4) under construction in front of the existing blast deflector. This new building was 20 meters long and 13 meters wide and only partially roofed when last observed. When the plant was last seen in October 1980, a second [redacted]-diameter pipeline was being constructed parallel to the other pipeline which then appeared to have had some sections removed.

40. (S/D) An underground linear conduit (item 5), about [redacted] wide, was constructed and earth covered for a distance of 175 meters to connect the 20- by 13-meter building to a larger new building (item 6). The larger building was externally complete by [redacted] It has a main section, 19 by 13 by 10 meters, and a side section, 19 by 8 by 5 meters. The larger building was constructed beside an existing probable water storage/treatment facility (item 7) that serves the suspect MHD facility. At the suspect MHD facility, an [redacted] structure (item 8) was constructed parallel to the exhaust duct that connects the suspect MHD energy generator building (item 2a) to the probable cyclone separator (item 2b).

[redacted]

42. (S/D) Construction continued on a probable laboratory/test building first observed under construction in May 1978. Minor changes observed in the current reporting period included the construction of three new support building/structures in the northeast area of the plant.

Petrokrepost Explosives and Solid Motor Plant Morozov

43. (TSR) A possible motor/container, [redacted] was observed in the composite propellant production area on several occasions. Several unidentified cylindrical objects were observed in open storage. Some are probably construction materials, and others may be storage tanks.

44. (S/D) When the plant was last observed in October 1980, construction was continuing on a large probable assembly/transshipment building in the composite propellant production area. A rail-served possible rocket motor finishing building was completed in the same area. In the double-base propellant production area, one support building was completed, and an addition to connect two existing propellant processing buildings was started. Grading, probably for another large building, was seen in an area between the composite and the double-base production areas. 25X1

Votkinsk Missile Machine and Steel Plant 235

45. (S/D) Twenty-four-meter missile component railcars continued to be observed in the main plant and in the transshipment/storage areas adjacent to the plant (Table 2). The highest number of 24-meter railcars observed in the reporting period was 28, and the lowest number seen was 6. No missile-associated crates or cylinders were identified at the plant. 25X1

Table 2. 24-Meter Missile Component Railcars at Votkinsk Missile Machine and Steel Plant 235

This table in its entirety is classified SECRET/WNINTEL

Date	Main Plant	Transshipment/Storage Areas	Total
	0	13	13
	6	22	28
	4	16	20
	4	19	23
	9	18	27
	9	12	21
	4	14	18
	9	12	21
	6	11	17
	7	16	23
	7	18	25
	2	6*	--
	0	6	6

*Area was partially cloud covered

46. (TSR) Significant expansion activity continued at Plant 235. By February 1981 an administration/engineering building and two support buildings were externally complete. A new security wall was constructed around three recently completed buildings in the southeast area of the plant. A unique building (Figure 6) and a small support building were in the late stages of construction. An area of footings remained unchanged at the north end of the plant. Most of the buildings started between 1976 and 1978 will probably be operational in 1981. The significant amount of expansion to the plant in recent years may indicate that a new family of solid propellant missiles is under development. New construction consisted of a probable shop building, footings for a probable support building, and ground preparations for the construction of one or more additional buildings in the southeast area of the plant (Figure 6).

Votkinsk Missile Final Assembly and Checkout Facility

47. (S/D) Construction continued[4] on a ten-bay garage in the southeast section of the plant (Figure 7). Each bay is [redacted] wide by [redacted] high. The overall garage length is [redacted] and the overall width is about 30 meters. Additional floorspace was constructed over 25X1 25X1

the ten bays. A blast wall was constructed behind the garage, indicating that potentially hazardous functions will be carried out in the garage. By January 1981, the garage and the blast wall were externally complete. Along the eastern edge of the main plant where new footings were previously reported under construction, a high-bay, rail-served building with a low-bay section on each side was in a mid-to-late stage of construction. The high-bay portion of the building is [redacted] The low-bay sections are each [redacted] long and [redacted] wide. Two previously constructed civil defense bunkers were not yet earth covered, and the construction of one small support building appeared to be abandoned. The shed previously started in the transshipment area was only partially completed (Figure 8). No new construction was started during the current reporting period.

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48. (S/D) The highest number of 24-meter missile component railcars at or near the facility during the reporting period was 33, and the lowest number was 18 (Table 3).

Table 3. 24-Meter Missile Component Railcars at Votkinsk Missile Final Assembly and Checkout Facility

This table in its entirety is classified SECRET/WNINTEL

Date	Assembly/Checkout Area	Transshipment Area*	On Rail line to Transshipment Area	Total
	6	6	19	31
	7	6	17	32
	2	9	18	29
	11	5	17	33
	2	9	18	29
	9	1	14	24
	10	8	15	33
	2	6	Area not observed	--
	4	7	13	24
	9	7	11	27
	5	7	12	24
	0	6	12	18

25X1

*The partial construction of a second shed over a railspur in the transshipment area plus the existing shed could conceal as many as 12 additional 24-meter railcars. When the second shed is completed about eighteen 24-meter railcars could be concealed in the transshipment area.

49. (TSR) A small number of crates and cylinders were again observed at the facility. On most coverages, a large peak-roofed crate, [redacted] was seen on a railcar. The crate sometimes appears to be two crates placed end to end, each about 6 meters long. A crate, [redacted] seen on a railcar on [redacted] is similar in appearance to the [redacted] Four small crates, [redacted] long and [redacted] meter wide, were in a railcar on [redacted] Three partially canvas-covered cylinders, about [redacted] were on an apron in front of a rail-served building near the entrance to the main plant on [redacted]

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25X1

[redacted] 25X1

25X1

Zagorsk Solid Propellant R&D Facility

50. (TSR) Three possible missile or missile component containers, [redacted] were observed at the facility for the first time on [redacted] One of the three containers had a light-toned band or section in the middle resembling the white bands seen recently on some of the [redacted] SS-N-9 missile shipping crates.

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51. (S/D) Construction continued on a large U-shaped administration/engineering building at the facility. This building was previously reported5 as two administration/engineering buildings under construction in the northern section of the plant.

REFERENCES

[redacted]

25X1

MAPS OR CHARTS

ACIC. US Air Target Chart; Series 200; Sheets 0103-25, 0153-04, 0154-23, 0155-20, 0165-01, and 0167-05, scale 1:200,000 (UNCLASSIFIED)

DOCUMENTS

1. NPIC. [redacted] Developments at Soviet Solid Propellant Research and Development Facilities (TSR), Feb 79 (TOP SECRET [redacted]

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*Extracted material is classified no higher than TOP SECRET R.

[redacted] [redacted] 25X1

2. NPIC. [redacted] Soviet Naval Missile Static Test Facilities (S), Jun 79 (TOP SECRET [redacted] 25X1 25X1 25X1

3. NPIC. [redacted] Activity and Developments at Soviet Defensive Missile Research, Development, and Production Facilities (S), Mar 80 (TOP SECRET [redacted] 25X1 25X1

4. NPIC. [redacted] Activity and Developments at Selected Soviet SSM Research, Development, and Production Installations (S), Jun 80 (TOP SECRET [redacted] 25X1 25X1 25X1

5. NPIC. [redacted] Activity and Developments at Soviet Solid Propellant Research and Development Facilities (S), Jun 80 (TOP SECRET [redacted] 25X1 25X1

6. NPIC. [redacted] Developments at Soviet Solid Propellant Research and Development Facilities (TSR), Sep 78 (TOP SECRET [redacted] 25X1 25X1

7. NPIC. [redacted] Soviet Research and Development of Conical Defensive Missiles (TSR), Mar 78 (TOP SECRET [redacted] 25X1 25X1 25X1

8. NPIC. [redacted] Developments at Soviet Defensive Missile Research, Development, and Production Facilities (S), Jan 79 (TOP SECRET [redacted] 25X1 25X1

9. CIA. [redacted] The 8K-96 (SS-13 SAVAGE) Missile System Components and Other Space Products Developed and Produced by the Arsenal Production Association in Leningrad, 14 Sep 79 (CONFIDENTIAL) 25X1

10. NPIC. [redacted] Major Test Facility Modifications at Moskva Solid Motor Production Plant Lyubertsy, USSR (S), Nov 80 (SECRET/[redacted] 25X1 25X1

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***[redacted] 25X1

REQUIREMENT

COMIREX J02

Project 541046J

(S) Comments and queries regarding this report are welcome. They may be directed to [redacted] Soviet Strategic Forces Division, Imagery Exploitation Group, NPIC [redacted] 25X1 25X1

[redacted] [redacted] 25X1

[redacted]